UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 09/851,038
Filing Date: May 07, 2001
Appellant(s): PHILLIPS, QUINTIN T.

Peter Kraguljac
For Appellant

SUPPLEMENTAL EXAMINER'S ANSWER

This is in response to the amended appeal brief filed 2/22/07 appealing from the

Office action mailed 1/13/2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which

will directly affect or be directly affected by or have a bearing on the Board's decision in the

pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief

is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5907415	Yabe	5-1999
6661530	Munetomo et al	12-2003
6771378	Akiyama et al	8-2004
6181436	Kurachi	6-2001
6965440	Nakagiri et al	11-2005

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-2, and 4-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama et al (US 6771378) and Kurachi (US 6181436), and further in view of Nakagiri et al (US 6965440).

Regarding claim 1, Akiyama discloses a method comprising:

● submitting a print job to a print device (submitting a print job from the host computer, fig. 1);

● receiving notification from the print device that a non-optimal condition exists with one or more consumables (selected color toner to be printed is empty and suggesting an alternate color schemes, figs. 11, 21-24, 45-47);

● displaying (i.e. message 33, fig. 21) a warning message about a toner color affected by the non-optimal condition;

● suggesting one or more alternate color schemes (suggesting an alternate color schemes, fig. 21-24) to use for the print job; and

• if an alternate color scheme is selected, resubmitting (resubmitting the print job with alternate color schemes, fig. 21-24) the print job with the alternate color scheme to the print device.

Akiyama fails to teach and/or suggest in response to receiving the notification from printer device, the host computer displays a visual representation of the print job without the affected toner color.

Kurachi, in the same field of endeavor for printing, teaches in response to receiving the notification from printer device, the host computer displays a visual representation of the print job without the affected toner color (printer device 3 transmits a rough image (fig. 5) representing a print job to be displayed on a host computer 1, col. 2, lines 25-32).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify printing system of Akiyama to include a method for displaying a visual representation of the print job as taught by Kurachi because of a following reason: (•) allowing the user to easily identify the print jobs that failed due to non-optimal conditions existed within the printer (i.e. empty toner as taught by Akiyama) by identifying the rough images and to select the print jobs easily and correctly (Kurachi, col. 3, lines 35-37); (•) combinations of Akiyama and Kurachi allow users to identify failed print job and to select different color toner to complete a failed print job.

However, combinations of Akiyama and Kurachi fail to teach and/or suggest the visual representation of the print job can be displayed with a selected alternate color scheme from the one or more schemes to provide a selectable option.

Nakagiri, in the same field of printing, teaches a visual representation of the print job can be displayed with a selected alternate color scheme from the one or more schemes to provide a selectable option (print preview with selected color scheme, figs. 8 & 13, in addition, previewing a print job prior submitting to a printer is well known in the art).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify printing system of Akiyama and Kurachi to include a print preview method for previewing a visual representation of the print job with a selected alternate color scheme from the one or more schemes to provide a selectable option as taught by Nakagiri because of a following reason: (•) allowing users to preview a print job before submitting to a print device to

ensure the right alternate color scheme is selected for a print job, by doing so, it prevents bad print outputs from printing.

Therefore, it would have been obvious to combine Akiyama and Kurachi with Nakagiri to obtain the invention as specified in claim 1.

Regarding claim 2, Akiyama further discloses a method as recited in claim 1, wherein resubmitting the print job further comprises: adjusting the color gamut (obviously, prior to print a print job with an alternate color schemes, the printer must adjusts the color gamut before printing the print job with altered color toners, figs. 21-24) of the print device according to the selected alternate color scheme.

Regarding claim 4, Akiyama further discloses a method as recited in claim 1 further comprising: presenting print options (fig. 19-20) for selection; and executing a selected print option, the print options comprising; canceling the print job (stop button, fig. 19-20); permitting the print job to print with the non-optimal condition (execute button, fig. 19-20); permitting the print job to print without the affected toner color (execute button, fig. 19-20); redirecting the print job to an alternate print device (it is known in the art to select different printers if the current printer is failed, i.e., one of ordinary skill in the art would press the "stop" button as shown in fig. 23-24 and then selecting a different printer to complete the unfinished print job sin the system as shown in fig. 1 is connected via a network; pausing to permit correction of the non-optimal condition and then printing the print job (i.e., message 3, fig. 19); and printing the print job in grayscale (gray of message 5, fig. 23).

Regarding claim 5, Akiyama further discloses a method as recited in claim 1, wherein the non-optimal condition is a low toner level (fig. 35, col. 24, lines 8-10) for one of a plurality of toner colors in an all-in-one toner cartridge (print head 303 contains plurality of ink toners 302, fig. 37).

Regarding claim 6, Akiyama further disclose a method as recited in claim 1, wherein the non-optimal condition is a depleted toner color (empty toner, fig. 17) for one of a plurality of

toner colors in an all-in-one toner cartridge (print head 303 contains plurality of ink toners 302, fig. 37).

Regarding claim 7, Akiyama further discloses a method as recited in claim 1, wherein the non-optimal condition is a low toner level (fig. 35, col. 24, lines 8-10) for one of a plurality of toner colors each located in a separate toner cartridge (toners 23a-23d, fig. 36).

Regarding claim 8, Akiyama further discloses a method as recited in claim 1, wherein the non-optimal condition is a depleted toner (empty toner, fig. 17) color for one of a plurality of toner colors each located in a separate toner cartridge (toners 23a-23d, fig. 36).

Regarding claims 9-10, a method for detecting worn photoconductor and transfer element are widely available and known in the art.

Regarding claim 11, Akiyama further discloses a computer-readable media (memory 107, fig. 1) having computer-readable instructions for performing the method as recited in claim 1.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama, Kurachi, Nakagiri as described in claim 1, and further in view of Yabe (US 5907415).

Regarding claim 3, Akiyama discloses a method for selecting an alternate color scheme for completing the unfinished print job if non-optimal condition exists (i.e. empty color toner), but fail to explicitly teach and/or suggest a method for adjusting color gamut comprises:

● accessing a color look-up table; and

● mapping the color gamut of the print device to the color look-up table to replace non-reproducible colors in the print job.

Yabe, in the same field of endeavor for printing environment, teaches a method for adjusting color gamut comprises: accessing a color look-up table (color reproduction gamut of printer, fig. 3); and mapping the color gamut (color gamut mapping unit 30, fig. 1) of the print device to the color look-up table to replace non-reproducible colors in the print job. Please also

notes, the method for adjusting color gamut and look-up table are widely available and known in the art.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Akiyama, Kurachi, and Nakagiri as per teachings of Yabe by incorporating a method of adjusting color gamut including accessing a color look-up table and mapping the color gamut of the print device to the color look-up table to replace non-reproducible colors in the print job because of a following reason: (●) to perform an image processing capable of producing high-quality image (Yabe, col. 1, lines 24-30) by accessing a color look-up table to reproduce the altered color schemes accurately; (●) using color look up table provides fast searching and to eliminate calculation processes, therefore, improving printing speed.

Therefore, it would have been obvious to combine Akiyama, Kurachi, Nakagiri with Yabe to obtain the invention as specified in claim 3.

Claims 29-30, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama et al (US 6771378), and in view of Munetomo et al (US 6661530).

Regarding claim 29, Akiyama discloses a computer coupled to a print device (fig. 1), the print device comprising a consumable component having a monitoring device (ink sensor 108, fig. 1) configured to detect a non-optimal condition (i.e. ink status, fig. 2a) of the consumable component, the computer comprising:

● a printer controller (driver 114 incorporated within the host computer, fig. 1) configured to send a print job to the print device;

● the printer controller further configured to receive information from the monitoring device and provide options for managing a non-optimal condition (i.e. status of ink toners, figs. 21-24) the options comprising:

● canceling the print job (stop button, fig. 21-24);

● permitting the print job to print with the non-optimal condition (execute button, fig. 21-24);

● permitting the print job to print without a toner color affected by the non-optimal condition (execute button, fig. 21-24);

● pausing (pausing the print job to replace a new cartridge toner, fig. 17) the print job to permit correction of the non-optimal condition and then permitting the print job to print;

● permitting the print job to print in grayscale (gray scale, fig. 23);

However, Akiyama fails to explicitly disclose wherein a printer controller visually presenting the print job in one or more selectable alternate color schemes, each alternate color scheme excluding the toner color affected by the non-optimal condition, and to redirecting the print job to an alternate print device.

Munetomo, in the same field of endeavor for printing, teaches a method for displaying a visual representation of the print job without the affected toner color (print preview of print job with selected color attributes as shown in figs. 12-13, and please notes that print preview of a print job before submitting to a printer is widely known and available in the art), and redirecting the print job to an alternate print device (it is also known the art to select a different printer if the current printer is failed due to non-optimal conditions such as empty toner, one of ordinary skill in the art would "stop" the failed printer and select another print since the system as shown in fig. 1 is connected via a network).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Akiyama as per teachings of Munetomo by incorporating a method including a method for displaying a visual representation of the print job without the affected toner color (i.e. print preview) before submitting to the printer device, by doing so, it allows users/operators to determine whether the printed product meets the customer's specs; to allow users/operators to see how the printed product should look like before printing by the printer, thereby, preventing wasteful inks.

Therefore, it would have been obvious to combine Akiyama with Munetomo to obtain the invention as specified in claim 29.

Regarding claim 30, Akiyama further discloses a computer as recited in claim 29, wherein the printer controller is further configured to adjust the color gamut of the print device according to a selected alternate color scheme and resend the print job to the print device for printing (obviously, the print data must be adjusted to the color gamut of the print device before printing a print job with altered color toners if the selected color toner is empty, fig. 23-24)

Regarding claim 34, Akiyama discloses a system (print system, fig. 1) comprising:

a computer (computer, fig. 1);

a electrophotographic print device (printer, fig. 1) coupled to the computer, the print device comprising a consumable component including one or more of a toner cartridge, a photoconductor, or transfer element (ink cartridge, fig. 1);

the consumable component comprising a monitoring device (ink sensor, fig. 1) configured to send information about the condition of the consumable component to the computer (ink toner status, fig. 21-24);

the computer further configured to look up one or more alternate color schemes (alternate color schemes, fig. 21-24) based on the condition of the consumable component and display the print job with the one or more alternate color schemes;

the computer further configured to send the print job to the electrophotographic print device to be printed with an alternate color scheme (figs. 21-24).

Munetomo, in the same field of endeavor for printing, teaches a method for displaying a visual representation of the print job without the affected toner color (print preview of print job with selected color attributes as shown in figs. 12-13, and please notes that print preview of a print job before submitting to a printer is widely known and available in the art).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Akiyama as per teachings of Munetomo by incorporating a method including a method for displaying a visual representation of the print job without the affected toner color (i.e. print preview) before submitting to the printer device, by doing so, it allows users/operators to determine whether the printed product meets the customer's specs; to allow users/operators to see how the printed product should look like before printing by the printer, thereby, preventing wasteful inks.

Therefore, it would have been obvious to combine Akiyama with Munetomo to obtain the invention as specified in claim 34.

(10) Response to Argument

Applicant's arguments, see 8-9, filed 8/7/06, with respect to claim 1 have been fully considered and are persuasive. The 35 U.S.C. §112, first paragraph rejection of claim 1 has been withdrawn.

Applicant's arguments with respect to prior art rejections of claims 1-11, 29-30, and 34 filed 8/7/06 have been fully considered but they are not persuasive.

● Regarding claim 1, the applicant argued the cited prior arts of record (Akiyama, Kurachi, and Nakagiri) fail to teach and/or suggest (1) displaying a visual representation of the print job without the affected toner color; (2) suggesting alternate color schemes.

In response, the Examiner disagrees with applicants' assertions/arguments. Akiyama teaches a method of selecting alternate color inks (e.g. cyan, yellow, magenta, or grayscale) if the selected color ink for the print job is depleted (fig. 23). Applicants also argued color scheme of a print job is more than just a single replacement/alternate ink as taught by Akiyama (fig. 4). The Examiner disagrees. Nowhere within claim 1 indicates color scheme is more than just a single color of ink. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). However, figure 23 of Akiyama shows an example of "gray" alternate color scheme comprising the combination of three colors (CMY). Kurachi teaches a method in response to receiving the notification from printer device, the host computer displays a visual representation of the print job without the affected toner color (printer device 3 transmits a rough image (fig. 5) representing a print job to be displayed on a host computer 1, col. 2, lines 25-32). Rough image (fig. 5) is a "visual representation" of the print job (e.g. page 1 to page 3 of fig. 5). It represents the print job with reduced size or simplified version of the image without the affected toner color (e.g. rough image is known for representing an actual image in grayscale (e.g. black or white) or any other colors regardless of its original image color (see page 12 of applicants' remark). NOTES: *"affected toner"* color is a toner color that is selected for printing; *"without affected toner"* color is a toner color that is not selected for printing (e.g. color that is not part of the print job). Clearly, "rough image" meets the requirements of "without affected toner" because it represents an actual image in colors (e.g. grayscale) that is different than the color of the original

image, see last paragraph of page 12 of applicants' remark. For example, affected toner color is red, while without affected toner/color (e.g. rough image) is in grayscale. In other words, color of original image is displayed in red, while color of rough image is displayed in black and white or any color other than red (see last paragraph of page 12 of applicants' remark). Therefore, Kurachi's reference meets the limitations "displaying a visual representation of the print job *without an affected toner color*" as cited in claim 1.

● Regarding claim 1, the applicant argued that there is no motivation to combine Akiyama and Kurachi references, and wherein the motivation as provided by the Examiner has been created using hindsight in effort to combine unrelated references.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation is to allow the user to easily identify the print jobs that failed due to non-optimal conditions existed within the printer (i.e. empty toner as taught by Akiyama) by identifying the rough images and to select the print jobs easily and correctly (Kurachi, col. 3, lines 35-37); (●) combinations of Akiyama and Kurachi allow users to identify failed print job and to select different color toner to complete a failed print job. In other words, Akiyama teaches a method of displaying a failed job to the users (figs. 17-24), and wherein Kurachi teaches a method that helps a user identify a certain print job from a number of print jobs via using "rough image" display. By adding "rough image" as taught by Kurachi to the method of Akiyama helps user to identify which job has been failed (e.g. print job that is out of ink, print media, and etc as shown in figs. 17-23) and to correctly re-submit that failed job to the printer with a selected alternate color inks (fig. 23 of Akiyama). Doing so, it prevents user/operator from re-submitting a wrong job for printing by visually inspecting a rough image of the print job, thereby, reducing costs of printing resources (e.g. inks, print media, and etc).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

● Regarding claim 1, the applicant argued the cited prior art of record (Nakagiri) fails to teach and/or suggest a visual representation of the print job can be displayed with a selected alternate color scheme from the one or more schemes to provide a selectable option.

In response, the Examiner disagrees. Nakagiri teaches a visual representation of the print job can be displayed with a selected alternate color scheme from the one or more schemes to provide a selectable option (print preview with selected color scheme, figs. 8 & 13). Nakagiri teaches a well-known example of "previewing a print job" prior submitting to a printer. The purpose of "previewing" is "what u see is what u get" at the output when the print job is outputted by the printer. For example, user can previews what the print job will look like with selected color (e.g. red or blue or combinations of both or etc) without having to provide an actual printed output, doing so, it prevents bad print outputs from printing.

● Regarding claim 2, the applicant argued none of the references teach suggesting an alternate color scheme, it follows that none of the references fail to teach and/or suggest adjusting the color gamut based on an alternate color scheme.

In response, the Examiner disagrees. Fig. 23 shows an example of selecting an alternate color scheme (e.g. C, M, Y or gray scale). For example, if grayscale (fig. 23) is selected as alternate color, the printer adjusts its gamut (switching to a different color toner, and each color toner is having its own color gamut reproduction range) accordingly so that image is outputted in grayscale. However, the methods for adjusting color gamut are widely available and known in the art. See example as taught by US 5699491 and US 5299291.

● With respect to arguments for claim 11, please refers to responses as discussed for claim 1 above for details.

● Regarding claim 3, the applicant argued the cited prior art of record (US 5907415 to Yabe) fails to teach and/or suggest a method including accessing a color look-up table that corresponds to the non-optimal print condition.

In response, the Examiner disagrees. Yabe teaches a well-known example of a color look-up table (adjusting color reproduction gamut of printer using look-up table, fig. 3, col. 9, lines 40-44 and col. 10, lines 28-32) that corresponds to the non-optimal print condition (color gamut mapping, fig. 4). Akiyama teaches a method of selecting alternate or replacement ink/toner in response to non-optimal print condition (e.g. empty toner). Fig. 6 of Yabe shows an example wherein a color gamut of printer can be adjusted manually. Therefore, it would have been obvious to modify Akiyama's method of selecting alternate toner/ink in response to non-optimal condition with Yabe's method of manually adjusting color gamut of printer via using look-up table (col. 9, lines 40-44) to obtain the claimed invention because it producing high-quality image (Yabe, col. 1, lines 24-30) by accessing a color look-up table to reproduce the altered color schemes accurately and wherein using color look up table provides fast searching and to eliminate calculation processes, therefore, improving printing speed. Yabe explicitly teaches a well-known example of adjusting color gamut (fig. 6) and look-up table (col. 9, lines 40-44). However, the methods for adjusting color gamut and look-up table are widely available and known in the art. US 5699491 and US 5299291 teaches a well-known example adjusting color gamut and look-up table.

● Regarding claims 29 & 34, the applicant argued the cited prior arts of record (US 6771378 to Akiyama and US 6661530 to Munetomo et al) fail to teach and/or suggest alternate color scheme, selectable alternate color scheme, or alternate color scheme that exclude a toner color affected by a non-optimal condition, and visually presenting the elements.

In response, the Examiner disagrees. Akiyama teaches a method of selecting alternate color inks (e.g. cyan, yellow, magenta, or grayscale) if the selected color ink for the print job is depleted (fig. 23). Munemoto teaches a method for previewing a print job with selectable attributes before submitting to a print device for outputting. Clearly, Akiyama and Munemoto are combinable because it allows users/operators to view the print job to determine whether the printed product meets the customer's specs before outputting; to allow users/operators to see how the printed product should look like before printing by the printer, thereby, preventing wasteful inks.

● Regarding claim 30, the applicant argued the cited prior arts of record fail to teach and/or suggest adjust color gamut of print device.

In response, fig. 23 shows an example of selecting an alternate color scheme (e.g. C, M, Y or gray scale). For example, if grayscale (fig. 23) is selected as alternate color, the printer adjusts its gamut (switching to a different color toner, and each color toner is having its own color gamut reproduction range) accordingly so that image is outputted in grayscale. However, the methods for adjusting color gamut are widely available and known in the art. See examples as taught by US 5699491 and US 5299291.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related

Appeals and Interferences section of this examiner's answer.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

● US 6563944 to Kumada teaches an example of redirecting a print job to an alternate printer due to printing errors.
● US 5630062 to Okutsu teaches an example of redirecting a print job to an alternate/substitute printer due to printing errors.

● US 5845057 to Takeda teaches an example of redirecting a print job to an alternate/substitute printer due to printing errors

● US 6452692 to Yacoub teaches an example of redirecting a print job to an alternate/substitute printer due to printing errors.

● US 5778279 to Kawai et al, teaches an example of detecting worn photoconductor and transfer element (i.e. photoconductive drum 21 of fig. 2) in an image forming apparatus.

● US 6791709 to Nakamura teaches an example of print preview (along with selectable ink colors, fig. 4) of a print job that is to be printed.

● US 5699491 and US 5299291 both teach a well-known example of adjusting color gamut of print device.

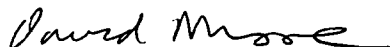**For the above reasons, it is believed that the rejections should be sustained.**

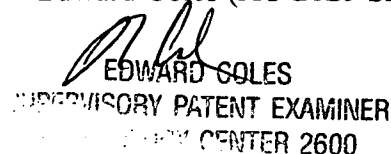Respectfully submitted,

Thierry L. Pham

Conferees:
David Moore (AU 2625 SPE)

DAVID MOORE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Edward Coles (AU 2625 SPE)

EDWARD COLES
SUPERVISORY PATENT EXAMINER
CENTER 2600